

Anticipated Costs and Capabilities of NASA Curatorial Facility - Mars Scout Sample Return Missions

Any samples of extraterrestrial planetary materials returned by Mars Scout missions shall be delivered to the NASA Astromaterials Curatorial Facility located at NASA's Johnson Space Center (JSC) as per NASA Policy Directive (NPD) 7100.10C or current revision. The Curation Facility is described at <http://ares.jsc.nasa.gov>

Costs for use of this Facility must be included in the NASA OSS cost for the proposed investigation. Investigation teams will be responsible for all aspects of the delivery of such materials to the Facility, which is responsible for providing for the physical security, inventory accountability, environmental preservation, and distribution of the samples in support of approved scientific research programs.

The anticipated costs of sample curation are based on the following assumptions:

- The spacecraft carrying the sample return canister will return to Earth during fiscal year (FY) 2010.
- The unopened sample return canister will be delivered to JSC.
- A dedicated Mars Scouts sample curation laboratory to be constructed as a modular cleanroom within existing spaces at JSC.
- The costs for laboratory preparation, laboratory operation, sample allocation, and sample curation will be borne by the Mission from FY 2006 – 2012). After that time the continuing costs will be borne by the same organization that funds allocation and curation of other extraterrestrial samples (currently the NASA Cosmochemistry Program).
- No special sample containment and handling will be warranted beyond what is needed for scientific purposes. This determination will be made prior to launch by the NASA Planetary Protection Officer in accordance with NASA Policy Directive (NPD) 8020.7E or current revision.
- The samples given the same degree of protection as Apollo lunar samples.
- Pristine and returned samples will be allocated to investigators approved by an advisory committee chartered by NASA.
- JSC will provide subsamples of rocks and soils as well as thin sections.
- Samples, thin sections, and their remnants will be returned to JSC upon the completion of approved investigations.

The following schedule of laboratory design, construction, and operation is anticipated:

FY 2006	Laboratory and equipment requirements defined; laboratory design completed
FY 2007	Laboratory space refit completed
FY 2008	Cleanroom / equipment installed, acceptance testing completed
FY 2009	Operational readiness inspection completed, procedure development and training completed
FY 2010	Samples arrive at JSC
FY 2010 – 2012	Samples processed, allocated, returned by investigators, stored

The following requirements for personnel dedicated to laboratory construction and operation are anticipated (personnel to be provided by the JSC site support contractor, currently Lockheed Martin Space Operations):

FY 2006 – 2009	Facilities Engineer (half time)
FY 2006 – 2012	Senior Laboratory Technician (half time)
FY 2009 – 2012	Sample Processor (full time)

The following costs, phased to specific fiscal years, are anticipated:

		<u>\$ K</u>
FY 2006	Laboratory and equipment requirements; laboratory design	20
	Facilities Engineer	60
	Senior Laboratory Technician	60
FY 2007	Laboratory space refit	100
	Facilities Engineer	60
	Senior Laboratory Technician	60
FY 2008	Cleanroom / equipment installation, acceptance testing	250
	Facilities Engineer	60
	Senior Laboratory Technician	60
FY 2009	Operational readiness inspection, procedure development, training	20
	Facilities Engineer	70
	Senior Laboratory Technician	70
	Sample Processor	100
FY 2010	Sample processing, allocation, storage, return	20
	Senior Laboratory Technician	70
	Sample Processor	100
FY 2011	Sample processing, allocation, storage, return	20
	Senior Laboratory Technician	70
	Sample Processor	100
FY 2012	Sample processing, allocation, storage, return	20
	Senior Laboratory Technician	80
	Sample Processor	110
TOTAL		1,580